

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

IN THE CLAIMS:

1. (original) An nucleic acid molecule comprising a nucleotide sequence corresponding to a centromeric or neocentromeric region of mammalian, avian, plant, or other higher eukaryote DNA, said nucleic acid molecule comprising a heterologous nucleic acid molecule inserted within said centromeric or neocentromeric region or immediately adjoining or proximal region and wherein said centromeric or neocentromeric region is substantially devoid of α -satellite DNA and which heterologous nucleic acid molecule is expressed in a cell.
2. (original) The isolated nucleic acid molecule of Claim 1 wherein the nucleic acid molecule is DNA.
3. (currently amended) The isolated nucleic acid molecule of Claim 1 [[or 2]] wherein the nucleic acid molecule is derived from a mammal.
4. (original) The isolated nucleic acid molecule of Claim 3 wherein the mammal is a human.
5. (currently amended) The isolated nucleic acid molecule of Claim 1 [[or 2]] wherein the nucleic acid molecule is derived from a plant.
6. (currently amended) The isolated nucleic acid molecule of Claim 1 [[or 2]] wherein the nucleic acid molecule is derived from an avian species.
7. (original) The isolated nucleic acid molecule of Claim 4 wherein the centromeric or

neocentromeric region comprises a q and p arm domain, and a scaffold domain and comprises a gene selected from hCG41809, hCG40976, hCG1781464, hCG39839, hCG1781461, hCG40945 and hCG1818126.

8. (original) An artificial or engineered chromosome comprising an isolated nucleic acid molecule comprising a nucleotide sequence corresponding to a centromeric or neocentromeric region of mammalian, avian or plant or higher eukaryote DNA, said nucleic acid molecule comprising a heterologous nucleic acid molecule inserted within said centromeric or neocentromeric region or immediately adjoining or proximal region and which heterologous nucleic acid molecule is expressed in a cell and wherein said centromeric or neocentromeric region is substantially devoid of α -satellite DNA.
9. (original) The isolated nucleic acid molecule of Claim 8 wherein the nucleic acid molecule is DNA.
10. (currently amended) The isolated nucleic acid molecule of Claim 8 [[or 9]] wherein the nucleic acid molecule is derived from a mammal.
11. (original) The isolated nucleic acid molecule of Claim 10 wherein the mammal is a human.
12. (currently amended) The isolated nucleic acid molecule of Claim 8 [[or 9]] wherein the nucleic acid molecule is derived from a plant.
13. (currently amended) The isolated nucleic acid molecule of Claim 8 [[or 9]] wherein the nucleic acid molecule is derived from an avian species.

14. (original) The isolated nucleic acid molecule of Claim 11 wherein the centromeric or neocentromeric region comprises a q and p arm domain, and a scaffold domain and comprises a gene selected from hCG41809, hCG40976, hCG1781464, hCG39839, hCG1781461, hCG40945 and hCG1818126.

15. (original) A method for modifying a phenotype in a eukaryotic cell, said method comprising inserting a genetic sequence, capable of modifying the genome or proteome of the cell, when expressed in said cell into a centromeric or neocentromeric region or its immediately adjoining or proximal region of a chromosome or artificial or engineered chromosome and which centromeric or neocentromeric region is substantially devoid of α -satellite DNA and, in the case of an artificial or engineered chromosome, introducing the artificial or engineered chromosome into a cell.

16. (original) The method of Claim 15 wherein the centromeric or neocentromeric region comprises a q and p arm domain, and a scaffold domain and comprises a gene selected from hCG41809, hCG40976, hCG1781464, hCG39839, hCG1781461, hCG40945 and hCG1818126.

17. (currently amended) A genetically modified non-human animal or plant comprising an artificial or engineered chromosome of Claim 8 [[or 14]].

18. (currently amended) A genetically modified non-human animal comprising a modified phenotype of Claim 15 [[or 16]].

19. (original) A method of gene therapy in an animal said method comprising inserting a genetic sequence, capable of modifying the genome or proteome of the cell, when expressed in said cell into a centromeric or neocentromeric region or its immediately adjoining or proximal region of a chromosome or artificial or engineered chromosome

and which centromeric or neocentromeric region is substantially devoid of α -satellite DNA and, in the case of an artificial or engineered chromosome, introducing the artificial or engineered chromosome into a cell.

20. (original) The method of Claim 19 wherein the animal is a mammal.
21. (original) The method of Claim 20 wherein the mammal is a human.
22. (original) The method of Claim 21 wherein the centromeric or neocentromeric region comprises a q and p arm domain, and a scaffold domain and comprises a gene selected from hCG41809, hCG40976, hCG1781464, hCG39839, hCG1781461, hCG40945 and hCG1818126.